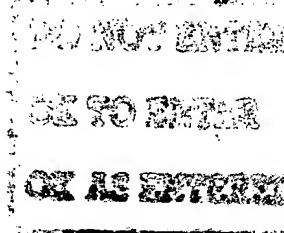


**IN THE CLAIMS:**

Please cancel Claim 7.



**REMARKS**

The Office Action of January 9, 2001 has been carefully considered and reconsideration of the application as amended is respectfully requested.

Claims 4 and 6 are pending in this application. Claim 7 has been deleted.

**Election/Restrictions**

The Examiner has withdrawn from consideration Claim 7 because claim 7 is directed to a non-elected invention. Claim 7 has been deleted from the present set of claims.

Applicants preserve all rights to file one or more divisional applications directed to the subject matter of Claim 7.

**Specification**

As suggested by the Examiner, attached is a substitute specification in clean form without markings as to amended material less the claims pursuant to 37 CFR 1.125(a). The new specification contains subject matter from the original specification and the previously entered amendment filed under 37 CFR 1.121 received on October 30, 2000 at the USPTO.

**Claim Rejection - 35 U.S.C. §103(a)**

Claims 4-6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Shin (KR 9007855B) in view of Webster's 3<sup>rd</sup> New International Dictionary, Finberg (U.S. Patent No. 2,930,719) and Horimoto (U.S. Patent No. 4,620,554).

In regard to Claim 4, the Examiner states that the Shin reference discloses a tobacco substitute composition comprising *Eucommia ulmoides*, licorice, honey and peppermint mixture. The Examiner admits that Claim 4 recites a limitation of 1-10% of licorice in the composition, which is not specifically disclosed by Shin. According to the Examiner, the Finberg reference teaches using licorice as a flavorant at 4% and it would have been obvious

to add the licorice to the tobacco substitute composition of Shin because it would accomplish the desired results of flavoring the composition. The Examiner also admits that the Shin reference does not teach adding 1-10% of *Perilla frutescens*. According to the Examiner, Horimoto teaches using Beefsteak, Japanese mint, peppermint and vanilla interchangeably as flavorants in a smoking composition and it would have been obvious to combine Beefsteak and Japanese mint with the composition of Shin because the aseptic action and tasteful properties of Beefsteak and the refreshing feel and taste properties of Japanese mint, would provide further flavoring in the Shin tobacco substitute. Applicants respectfully disagree.

The present application discloses a composition comprising 80-90 weight percent of *Eucommia ulmoides*, 1-10 weight percent of *Glycyrrhiza glabra*, and 1-10 weight percent of *Perilla frutescens*. The present composition is a tobacco substitute and is an effective aid in smoking cessation. *Glycyrrhiza glabra* and *Perilla frutescens* are combined with *Eucommia ulmoides* for their "medicinal" purposes. Often a person who is in the process of quitting smoking will experience side effects such as coughing and will expectorate sputum. *Glycyrrhiza glabra* serves to discharge sputum and smooth the airways of a patient who is smoking the composition to overcome the side effects which may occur due to cessation of smoking, see the paragraph bridging pages 2 and 3 of the new specification. *Perilla frutescens* is added to the composition to overcome the coughing effects associated with cessation of smoking, see page 3, lines 3-6 of the new specification.

None of the cited prior art references describe *Glycyrrhiza glabra* to smooth the airways of a person or *Perilla frutescens* to overcome the coughing effects associated with cessation of smoking. Rather the prior art references, as well as the arguments set forth by the Examiner, describe *Glycyrrhiza glabra* and *Perilla frutescens* as flavorants. On page 3, lines 7-10 of the new specification, the flavoring materials of the present invention include sodium chloride, glycerol, sweetener, spices, sugar, honey, and artificial sweetener and it is clear that *Glycyrrhiza glabra* and *Perilla frutescens* are used for other purposes besides flavoring.

Therefore, without the prior art suggesting using *Glycyrrhiza glabra* and *Perilla frutescens* in an amount sufficient to overcome the coughing effects associated with cessation of smoking, there is no suggestion or motivation to modify the reference or to combine the reference teachings.

In regard to Claim 5, the Examiner states that Shin discloses glycerol. None of the cited prior art references disclose a tobacco substitute composition comprising 80-90 weight percent of *Eucommia ulmoides*, 1-10 weight percent of *Glycyrrhiza glabra* and 1-10 weight percent of *Perilla frutescens* wherein the *Glycyrrhiza glabra* and *Perilla futescens* are used to overcome the coughing effects associated with smoking. Without the references disclosing what is defined in independent claim 4, dependent Claim 5 is non obvious over the cited prior art.

In regard to Claim 6, the Examiner states that Shin discloses using peppermint and that Horimoto discloses using peppermint in combination with Beefsteak and Japanese mint within the claimed ranges.

A prior art reference must be considered in its entirety, i.e. as a whole including portions that would lead away from the claimed invention, MPEP 2141.02. Horimoto discloses a moderating agent which is attached to the top end of a cigarette to promote the taste of the cigarette. The moderating agent includes the use of peppermint in combination with Beefsteak and Japanese mint. The present invention describes a tobacco substitute composition that does not contain nicotine. The tobacco substitute composition of the present invention is an effective aid in smoking cessation. When taken as a whole, Harimoto, leads away from the claimed invention because it describes a moderating agent for a tobacco composition, not an agent for aiding smoking cessation. Therefore, it is respectfully submitted that Horimoto and Shin cannot properly be combined.

Further in support of Applicants argument over obviousness, attached are articles from the Daily Economy and Seoul Economy Daily which give light to the circumstances

surrounding the origin of the present invention. The Daily Economy dated June 23, 1999 discloses the present invention and how it can be used in the cessation of smoking. The Seoul Economy Daily of May 28, 1999 elected the present invention as one of the best sold goods. The two articles are evidence that the present invention has commercial success.

In light of the above, Applicants submit that all rejections and objections of record have been overcome. Applicants accordingly submit that the application is now in condition for allowance and respectfully request action in accordance therewith.

Respectfully submitted,



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OK TO ENTER

OK AS ENTERED

- 1 -

## TOBACCO SUBSTITUTED COMPOSITION

### BACKGROUND OF THE INVENTION

#### Field of the Invention

[0001] The present invention relates to a tobacco substitute composition, and in particular to a tobacco substitute composition which has an excellent effect to aid in smoking cessation. The composition does not include nicotine. The invention also relates to a method for preparing the composition.

#### Description of the Conventional Art

[0002] It is known in the art that a gum or a patch type product which contains a small amount of nicotine is used as a substitute for tobacco.

[0003] However, since these products contain nicotine, there is a disadvantage due to nicotine. Therefore, it is impossible to implement the desired effect of smoking cessation.

[0004] There are tobacco substitutes which do not contain nicotine and U.S. Patents 4,506,684 and 4,719,929 describe products which include cellulose. In addition, in U.S. Patent 4,813,438, a product made of bran, soybean, and mesquite is described. In the Japanese Patent Laid-open No. Pyung 1-273574, a product which is made of a coffee powder or leaves of a tea plant is described. In addition thereto, various products which use an organic compound as a substitute are known. In particular, in U.S. Patent 4,600,-025, 2-methyl-5-(pyrrolidinomethyl)thiazole and 2-methyl-5-(piperidinomethyl)thiazole are described.

[0005] However, since the above-described products have a flavor and taste different from tobacco, these products failed to attract a smoker's interest.

#### Summary of the Invention

[0006] Accordingly, it is an object of the present invention to provide a tobacco substitute composition which has a taste very similar to the taste of tobacco, thereby making the composition suitable for use as a smoking cessation aid.

[0007] In order to achieve the above object, a tobacco substitute composition is provided which is formed of 80-90 weight percent of an *Eucommia ulmoides*, 1-10

weight percent of a *glycyrrhiza glabra*, and 1-10 weight percent of a *Perilla frutescens*.

[0008] In another example of the present invention, a flavoring material such as sodium chloride, glycerol, a sweetener, spices, etc. which are generally added to a tobacco may be used.

[0009] Additional advantages, objects and other features of the invention will be set forth in part in the description which follows and will become apparent to those having ordinary skill in the art upon examination of the following. The objects and advantages of the invention may be realized and attained as particularly pointed out in the appended claims as a result of the experiment compared to the conventional arts.

#### Detailed Description of the Invention

[0010] As a result of experiments using various plants, we have found out that the leaves of *Eucommia ulmoides* have a taste which is similar to the taste of tobacco. *Eucommia ulmoides* is generally used as a therapy material for beriberi disease, hypertension, insomnia, lumbago, joint diseases, etc. In addition, *Eucommia ulmoides* is used as a nutrition material, and a stamina enhancing material. *Eucommia ulmoides* is characteristically non-toxic. The effective components of the fully dried *Eucommia ulmoides* are as follows: 2.2g of moisture, 12.3g of protein, 7.0g of paper, 10.1g of fiber, 13.8g of powder, 193mg of phosphorus, 95.4mg of Fe, 2.5g of calcium, 3.99mg of sodium, 330mg of magnesium, 1.09g of potassium, 17.8ppm of zinc, 5.52ppm of copper, 5.97g of tannin, 205mg of chlorophyll, 26.3mg of tocopherol, 58mg of vitamin C, and 480mg of organic acid based on the total weight of 100g.

[0011] If the *Eucommia ulmoides* exceeds the above-described amount, the taste of the composition is not soft with its small amount of *Glycyrrhiza glabra*. If the *Eucommia ulmoides* is used by an amount less than the above-described amount, it is impossible to obtain the taste of the tobacco.

[0012] Here, *Glycyrrhiza glabra* is added. *Glycyrrhiza glabra* serves to discharge sputum and smooth the airways. Therefore, *Glycyrrhiza glabra* overcomes the side effects which may occur due to the smoking. In the present invention, 1-10

weight percent of *Glycyrrhiza glabra* is used. *Glycyrrhiza glabra* has 40-50 times the sweetness of sugar.

[0013] In the present invention, about 1-10 weight percent of *Perilla frutescens* which has a curing effect for cough is added. Since the *Perilla frutescens* has 200-300 times the sweetness of the sugar, *Perilla frutescens* serves as a sweetener and an antiseptic.

[0014] In the composition according to the present invention, a flavoring material such as sodium chloride, glycerol, sweetener, spices, etc. may be added. As a sweetener, sugar, honey, an artificial sweetener, etc. may be added. In addition, as a flavoring material, a peppermint oil is used.

[0015] The present invention will be illustrated by the following examples.

#### EXAMPLE 1

##### Preparation of tobacco substitute composition

[0016] 5g of *Glycyrrhiza glabra*, 5g of *Perilla frutescens*, and 3g of glycerol were added to 90g of the leaves of the *Eucommia ulmoides*, and the resulted mixtures were cut by 1mm and then were uniformly mixed. The tobacco substitute composition was formed in the same shape of the tobacco. As a result of the analysis of the components of the smoke of the product, the amount of the nicotine was 0mg/cig, and the amount of the tar was 14.4mg/cig.

#### EXAMPLE 2

##### Clinical demonstration

[0017] This clinical demonstration was conducted by the Wonkwang University Hospital located in Mokpo, Korea. In this example, 27 smokers were selected and were suggested to smoke the composition of example 1 for three weeks.

[0018] The result of the above-described clinical demonstration was shown in the following table 1.

Degree	Number of patients	Ratio
1. Recovered	20 persons	74.7%
2. Good	3 persons	11.11%
3. Moderate	2 persons	7.41%
4. Slight	1 person	3.70%
5. Unchanged	1 person	3.70%
Sum	27 persons	99.99%

- \* 1. Recovered: Smoking cessation.
- 2. Good: smoking amount was decreased by more than 75%.
- 3. Moderate: smoking amount was decreased by more than 50%
- 4. Slight: smoking amount was decreased by more than 25%.
- 5. Unchanged: No effect on smoking suppression.

[0019] The other symptoms of the demonstrators were as follows: No side effects: 13 persons, nausea: 5 persons, phlegm: 4 persons, dizziness: 2 persons, headache: 1 person, and a concentration decrease: 1 person. The above-described symptoms were known as a smoking withdrawal effects; not side effects of the tobacco substitute of this invention.

[0020] Although the preferred examples of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as recited in the accompanying claims.

## TOBACCO SUBSTITUTED COMPOSITION

### BACKGROUND OF THE INVENTION

#### [1.] Field of the Invention

5       The present invention relates to a tobacco substitute composition, and in particular to a tobacco substitute composition which has an excellent effect to aid in [for stopping] smoking [and] cessation. The composition does not include [a] nicotine [and preparation method thereof]. The invention also relates to a method for preparing the composition.

10

#### [2.] Description of the Conventional Art

It is known in the art that [In the conventional art, as a substitute of a tobacco,] a gum or a patch type product which contains a small amount of nicotine is used as a substitute for tobacco [is known].

15

However, since these products contain [this product contains a] nicotine, there is a disadvantage [smoking prohibition phenomenon] due to [a] nicotine. Therefore, it is impossible to implement the [a] desired effect of [for stopping] smoking cessation.

20

There are [As a] tobacco substitutes [substitute] which do [does] not contain [a] nicotine and [is formed of the same type as the tobacco, there are] U.S. Patents [of] 4,506,684 and 4,719,929 describe products which include cellulose [which use celluroses]. In addition, in [the] U.S. Patent [of] 4,813,438, a product made of [a] bran, [a] soybean, and [a] mesquite [which are used as a main composition] is described. In the Japanese Patent Laid-open No. Pyung 1-273574, a product which is made of a coffee powder or leaves of a tea plant is described. In addition thereto, various products which use an organic compound as a substitute are known. In particular, in [the] U.S. Patent 4,600,025, [a] 2-methyl-5-(pyrrolidinomethyl)thiazole [2-methyl-5(pyrrolidinomethyl)tiazol] and [a] 2-methyl-5-(piperidinomethyl)thiazole [2-methyl-5-(piperidinomethyl)thiazol] are described.

25

However, since the above-described products have a flavor and taste different from [a] tobacco, these products failed to attract a smoker's interest.

30

## SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a tobacco substitute composition which has a taste very similar to the taste [take] of [a] tobacco, [for] thereby making the composition suitable for use as a smoking cessation aid [implementing a smoking stopping effect].

In order to achieve the above object, [it] a tobacco substitute composition is provided [a tobacco substitute composition] which is formed of 80-90 weight percent of an *Eucommia ulmoides* [eucommia ulmoides], 1-10 weight percent of a *Glycyrrhiza glabra* [glycyrrhiza], and 1-10 weight percent of a *Perilla frutescens* [perilla frutescens].

In another example of the present invention, a flavoring material such as [a] sodium chloride, [a] glycerol, a sweetener, [a] spices, etc. which are [is] generally added to a tobacco may be used.

Additional advantages, objects and other features of the invention will be set forth in part in the description which follows and [in part] will become apparent to those having ordinary skill in the art upon examination of the following [or may be learned from practice of the invention]. The objects and advantages of the invention may be realized and attained as particularly pointed out in the appended claims as a result of the experiment compared to the conventional arts.

## DETAILED DESCRIPTION OF THE INVENTION

As a result of experiments [implemented] using various plants, we have found [founded] out that the leaves of *Eucommia ulmoides* [eucommia ulmoides] have [has] a taste which is [most] similar to the taste of [the] tobacco. *Eucommia ulmoides* [The eucommia ulmoides] is generally used as a therapy material for [a] beriberi disease, [a] hypertension, [an] insomnia, [a] lumbago, [a] joint diseases, [disease] etc. In addition, *Eucommia ulmoides* [the eucommia ulmoides] is used as a nutrition material, and a stamina enhancing material [with its characteristic of non-toxicity]. *Eucommia ulmoides* is characteristically non-toxic. The effective components of the

fully dried *Eucommia ulmoides* [eucommia ulmoides] are as follows: 2.2g of moisture, 12.3g of protein, 7.0g of paper, 10.1g of fiber, 13.8g of powder, 193mg of phosphorus, 95.4mg of Fe, 2.5g of calcium, 3.99mg of sodium, 330mg of magnesium, 1.09g of potassium, 17.8ppm of zinc, 5.52ppm of copper, 5.97g of tannin, 205mg of chlorophyll, 5 26.3mg of tocopherol, 58mg of vitamin C, and 480mg of organic acid based on the total weight of 100g.

If the *Eucommia ulmoides* [eucommia ulmoides] exceeds the above-described amount, the taste of the composition is not soft with its small amount of *Glycyrrhiza glabra* [glycyrrhiza glabra]. If the *Eucommia ulmoides* [eucommia 10 ulmoides] is used by an amount less than the above-described amount, it is impossible to obtain the taste of the tobacco.

Here, [the] *Glycyrrhiza glabra* [glycyrrhiza glabra] is added. [The] *Glycyrrhiza glabra* [glycyrrhiza glabra] serves to discharge [a] sputum and smooth the airways [airway of the breath]. Therefore, [the] *Glycyrrhiza glabra* [glycyrrhiza glabra] 15 overcomes the side effects which may occur due to the smoking. In the present invention, 1-10 weight percent of *Glycyrrhiza glabra* [glycyrrhiza glabra] is used. *Glycyrrhiza glabra* [glycyrrhiza glabra] Since the] has 40-50 times the sweetness of [the] sugar.

In the present invention, about 1-10 weight percent of *Perilla frutescens* 20 [perilla frutescens] which has a curing effect for cough is added. Since the *Perilla frutescens* [perilla frutescens] has 200-300 times the sweetness of the sugar, *Perilla frutescens* [the perilla frutescens] serves as a sweetener and an antiseptic.

In the composition according to the present invention, a flavoring material [which is added to the tobacco] such as sodium chloride, glycerol, sweetener, 25 spices, etc. may be added. As a sweetener, [a] sugar, honey, an artificial sweetener, etc. may be added. In addition, as a flavoring material, a peppermint oil is used.

The present invention will be illustrated by the following examples.

Example 1: Preparation of tobacco substitute composition

30 5g of *Glycyrrhiza glabra* [glycyrrhiza glabra], 5g of *Perilla frutescens* [perilla frutescens], and 3g of glycerol were added to 90g of the leaves of the

Eucommia ulmoides [eucommia ulmoides], and the resulted mixtures were cut by 1mm and then were uniformly mixed. The tobacco substitute composition was formed in the same shape of the tobacco. As a result of the analysis of the components [component] of the smoke of the product, the amount of the nicotine was 0mg/cig, and 5 the amount of the tar was 14.4mg/cig.

Example 2: Clinical demonstration

This clinical demonstration was conducted by the Wonkwang University Hospital located in Mokpo, Korea. In this example, 27 smokers were 10 selected and were suggested to smoke the composition of example 1 for three weeks.

The result of the above-described clinical demonstration was shown in the following table 1.

[Table 1]

Degree	Number of patients	Ratio
1. Recovered	20 persons	74.7%
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3. Moderate	2 persons	7.41%
4. Slight	1 person	3.70%
5. Unchanged	1 person	3.70%
Sum	27 persons	99.99%

\* 1. Recovered: Smoking cessation [was completely quitted].  
2. Good: [More than 75%] smoking amount was decreased by more than 75%.  
25 3. Moderate: [More than 50%] smoking amount was decreased by more than 50%  
4. Slight: [More than 25%] smoking amount was decreased by more than 25%.  
5. Unchanged: No effect on [of] smoking suppression [effect].

30 The other symptoms of the demonstrators were [founded out] as follows [follow]: No side effects: 13 persons, nausea: 5 persons, phlegm: 4 persons,

dizziness: 2 persons, headache: 1 person, and a concentration decrease: 1 person. The above-described symptoms were known as a smoking withdrawal effects; [prohibition effect,] not [the] side effects of the tobacco substitute of this invention.

Although the preferred examples of the present invention have been  
5 disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as recited in the accompanying claims.